



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

HB

GPI #2
12-27-01
2662

In re application of:

Yishay MANSOUR, et al.

Serial No.: 09/918,347

Filed: July 30, 2001

For: HARMONIC BUFFER MANAGEMENT
POLICY FOR SHARED MEMORY
SWITCHES

) Art Unit: (N/A)

) Examiner: (N/A)

) Washington, D.C.

) November 28, 2001

) Docket No.: 03022/37258

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INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. 1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

☒ 1. This IDS should be considered, in accordance with 37 C.F.R. 1.97, as it is filed:

(Check one of the boxes A-D)

☐ A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

☒ B. before the mailing date of a first office action on the merits.

☐ C. after (A) and (B) above, but before final rejection or allowance, and Applicants have made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below).

(check one of the boxes "i" and "ii" below:)

☐ i. Counsel certifies that, upon information and belief, each item of information listed herein was either (a) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or (b) was not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.

☐ ii. A check for the fee set forth in 1.17(p), presently believed to be \$240, is enclosed (check no. _____).

☐ D. after (A), (B) and (C) above, but before payment of the issue fee: Applicant petitions under 37 C.F.R. 1.97(d) for the consideration of this IDS. A check for the fee set forth in §1.17(i), presently believed to be \$130 is enclosed (check no. _____). Counsel certifies that, upon information and belief, each item of information listed herein was either (i) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the IDS; or (ii) was not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.

☐ 2. In accordance with 37 C.F.R. 1.98, this IDS includes a list (e.g., form PTO-1449) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document listed is attached, except as explained below.

(check boxes A and/or B and fill in blanks, if appropriate.)

☐ A. Document(s) _____ is (are) deemed substantially cumulative to document(s) _____, and, in accordance with 1.98(c), only a copy of each of the latter documents is enclosed.

☐ B. Certain documents were previously cited by or submitted to the Office in the following prior application(s), which are relied upon under 35 U.S.C. 120:

[insert serial numbers and filing dates of prior applications]

Applicant identifies these documents by attaching hereto copies of the forms PTO-892 and PTO-1449 from the files of the prior application(s) or a fresh PTO-1449 listing these documents, and request that they be considered and made of record in accordance with 1.98(d). Per 37 CFR 1.98(d), copies of these documents need not be filed in this application.

☐ 3. Document(s) _____ is(are) not in the English language. In accordance with 1.98(c), Applicant states:

☐ An English translation of each document (or of the pertinent portions thereof), or a copy of each corresponding English-language patent or application, or English-language abstract (or claim) is enclosed.

☐ A concise explanation of the relevance of document(s) _____ is found in the attached search report (see reply to Comment 68 in the preamble to the final rules; 1135 OG 13 at 20).

☐ A concise explanation of the relevance of document(s) _____ is set forth as follows:
[Insert concise explanation of relevance]

☐ A concise explanation of the relevance of document(s) _____ can be found on page(s) _____ of the specification.

☐ A concise explanation of document(s) _____ can be found on the attached sheet.

4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

☐ 5. Other information being provided for the examiner's consideration follows:

6. In accordance with 37 C.F.R. 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

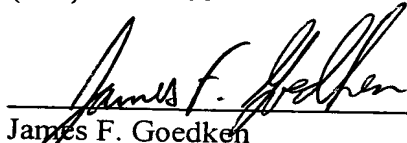
CROSS REFERENCE UNDER 37 C.F.R. §1.78 TO RELATED APPLICATIONS

Pursuant to 37 C.F.R. § 1.78, Applicant notes that the above-identified patent application may be related to the following U.S. Patent Applications:

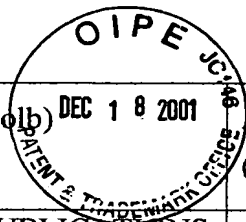
Respectfully submitted,

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By:


James F. Goedken
Reg. No: 44,715

December 12, 2001



Date: November 28, 2001

Page 1 of 5

FORM PTO-1449 (Colb)	ATTY DOCKET NO. 03022/37258	SERIAL NUMBER 09/918,347
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANTS' INFORMATION STATEMENT	APPLICANT Yishay MANSOUR, et al.	
	FILING DATE July 30, 2001	GROUP ART UNIT (N/A)

U.S. PATENT DOCUMENTS

Examiner's Initials		DOCUMENT NO.	DATE	NAME	CLASS	SUB	FILING DATE
	AA	5,541,912	July 1996	Choudhury, et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB	TRANSLATION
	AB						

OTHER ART (Including Author, Bills, Pertinent Pages, Etc.)

	AC	Noboru Endo, et al., "Shared Buffer Memory Switch for an ATM Exchange", IEEE Transactions on Communications, Vol. 41, No. 1, January 1993, pp. 237-245.
	AD	Marek I. Irland, "Buffer Management in a Packet Switch", IEEE Transactions on Communications, Vol. COM-26, No. 3, March 1978, pp. 326-377.
	AE	Farouk Kamoun, et al., "Analysis of Shared Finite Storage in a Computer Network Node Environment Under General Traffic Conditions", IEEE Transactions on Communications, Vol. COM-28, No. 7, July 1980, pp. 992-1003.
	AF	Guy Latouche, "Exponential Sharing a Finite Storage: Comparison of space Allocation Policies", IEEE Transactions on Communications, Vol. COM-28, No. 6, June 1980, pp. 910-915.
	AG	G. J. Foschini, et al., "Sharing Memory Optimally", IEEE Transactions on Communications, Vol. COM-28, No. 3, March 1983, pp. 352-360.
	AH	A. K. Choudhury, et al., "Dynamic queue length Thresholds for Shared-Memory Packet Switches", IEEE/ACM Transactions on Communications, Vol. 6, No. 2, April 1998, pp. 130-140.
	AI	Harry G. Perros, et al., "Call Admission Control Schemes: A Review", IEEE Commun. Mag., November 1996, pp. 82-91.
	AJ	Ashok Erramili, et al., "Monitoring Packet Traffic Levels", Proc. IEEE GLOBECOM '94, Vol. 1, December 1994, pp. 274-280.
	AK	Israel Cidon, et al., "Optimal Buffer Sharing", IEEE JSAC 13:7, September 1995, pp. 1229-1339.

EXAMINER:

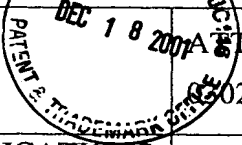
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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FORM PTO-1449 (Colb)	 PATENT DOCKET NO. 0222/37258	SERIAL NUMBER 09/918,347
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANTS' INFORMATION STATEMENT	APPLICANT Yishay MANSOUR, et al.	
	FILING DATE July 30, 2001	GROUP ART UNIT (N/A)

U.S. PATENT DOCUMENTS

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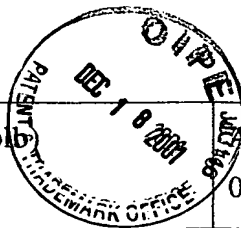
OTHER ART (Including Author, Bills, Pertinent Pages, Etc.)

AD	Andre Baiocchi, et al., "Loss Performance Analysis of an ATM Multiplexer Loaded with High-Speed ON-OFF Sources", IEEE JSAC 9:3, April 1991, pp. 388-392.
AE	Xian Cheng, et al., "A Finite Buffer Two Class Queue with Different Scheduling and Push-Out Schemes", Proc. IEEE INFOCOM '92, May 1992, pp. 231-241.
AF	Hans Kroner, "Comparative Performance Study of Space Priority Mechanisms for ATM Networks", IEEE INFOCOM '90, June 1990, pp. 1136-1143.
AG	Guo-Liang Wu, et al., "A Buffer Allocation Scheme for ATM Networks: Complete Sharing Based on Virtual Partition", IEEE/ACM Trans. Networking 3:6, December 1995, pp.660-670.
AH	Yonghwan Kim, et al., "Timescale of Interest in Traffic Measurement for Link Bandwidth Allocation Design", IEEE INFOCOM '96, March 1996, pp. 738-748.
AI	Erol Gelenbe, et al., "Bandwidth Allocation and Call Admission Control in High-Speed Networks", IEEE Commun. Mag., May 1997, pp. 122-129.
AJ	H.M. AboElFoton, et al., "An Integrated Call Admission and Buffer Management Scheme for LAN Interconnection Over a Shared-Memory ATM Switch", Comp. Commun. 21, 1998, pp. 697-714.
AK	Krishnan Kumaran, et al., "Performance and Fluid Simulations of a Novel Shared Buffer Management System", Proc. IEEE INFOCOM '98, March 1998, pp. 1149-1161.

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Page 3 of 5

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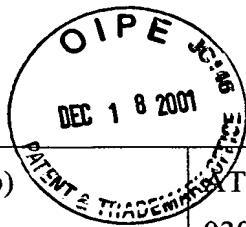
OTHER ART (Including Author, Bills, Pertinent Pages, Etc.)

	AD	Santos Krishnan, et al., "Dynamic Partitioning: A Mechanism for Shared Memory Management", Proc. IEEE INFOCOM '99, March 1999, pp. 144-152.
	AE	Ashok Erramilli, et al., "Self-Similarity in High-Speed Network traffic Measurements: Fact or Artifact?", 12 th Nordic Teletraffic Seminar NTS 12(VTT Symposium 154), August 1995, pp. 299-310.
	AF	Simon Fong, et al., "Performance Evaluation of Shared-Buffer ATM Switches Under Self-Similar Traffic", 1997 IEEE Int. Performance, Computing and Comm. Conf. February 1997, pp. 252-258.
	AG	Hui Zhang, "Service disciplines for guaranteed performance service in packet-switching networks", Proc. IEEE 83:10, October 1995.
	AH	W.A. Aiello, et al., "Competitive queue policies for differentiated services", Proceedings of INFOCOM 2000, pp. 431-440.
	AI	M. Arpachi, et al., "Buffer management for shared-memory ATM switches", IEEE Commun. Surveys, First Quarter 2000.
	AJ	James Aspens, et al., "On-line routing of virtual circuits with applications to load balancing and machine scheduling", Proc. Of the 23 rd ACM Symp. On Theory of Computing, 1993.
	AK	Allan Borodin, et al., "Online computation and competitive analysis", Cambridge University Press, 1998.

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Page 4 of 5

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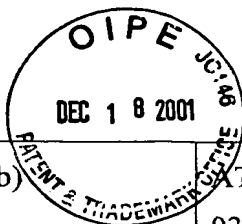
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	AD	Mark e. Crovella, et al., "Self-similarity in world wide web traffic: evidence and possible causes", IEEE/ACM trans. Networking 5(6): 835-846, December 1997.
	AE	Anja Feldman, et al., "Dynamics of IP traffic: A study of the role of variability and the impact of control", SIGCOMM '99, Cambridge, Massachusetts, Sept. 1999.
	AF	M. G. Hluchyj, et al., "Queueing in high-performance packet switching", IEEE J. Select. Areas Commun., Vol. 6, pp. 1587-1597, December 1988.
	AG	Alexander Kesselman, et al., "Buffer overflow management in QoS Switches", to appear in STOC 2001.
	AH	Alexander Kesselman, et al., "Loss-bounded analysis for differentiated services", to appear in SODA 2001.
	AI	Yishay Mansour, et al., "Optimal Smoothing Schedules for Real-Time Streams", to appear in PODC 2000.
	AJ	Vern Paxson, et al., "Wide-area traffic: the failure of poisson modeling", IEEE/ACM Trans. on Networking, June 1995.
	AK	Parag Pruthi, et al., "Heavy tailed on/off source behavior and self-similar traffic", Proceedings of the ICC'95, June 18-22, 1995.
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	AD	Schwefel et al., "Analytic model of performance in telecommunication systems, based on ON-OFF traffic sources with self-similar behavior", 7 th Int. Conf. Telecommunication systems, Nashville, Tennessee, March 18-21, 1999.
	AE	Schwefel, et al., "Buffer size issues in the presence of self-similar traffic", Third IFIP Workshop on Traffic Management and Design of ATM Networks, London, April 26-27, 1999.
	AF	Daniel D. Sleator, et al., "Amortized efficiency of list update and paging rules", Communications of the ACM, Vol. 28, No. 2, February 1995, pp. 202-208.
	AG	Andras Veres, et al., "The chaotic nature of TCP congestion control", Proc. INFOCOM 2000, pp. 1715-1723, March 2000.
	AH	Walter Willinger, et al., "Self-similarity through high-variability: statistical analysis of ethernet LAN traffic at the source level", ACM SIGCOMM'97.
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